

The Solar Dynamics Observatory and its Contributions to Space Weather

The Solar Dynamics Observatory (SDO) was launched on 11 February 2010 and has worked flawlessly in its first year and a half of operation. SDO was the first mission launched for NASA's Living With a Star Program (LWS), so its focus is not only studying the causes and drivers of the variable Sun, but also how these variations force similar changes in the Earth and other objects within the Heliosphere. Due to SDO's many Space Weather goals, this presentation will not only show some of the recent, groundbreaking new results provided by SDO, but also focus on the real-time Space Weather advances provided by this spacecraft. A main theme throughout this talk will be methods and tools that researchers around the world can utilize to access and manipulate the SDO data real-time for both fundamental science and Space Weather monitoring purposes.